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## We claim

- A process for vulcanizing rubber or latex by adding a mixture
  M comprising a component a) made from
  - al) from 20 to 96% by weight of sulfur,
  - a2) from 4 to 80% by weight of a complexer,

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and, where appropriate, comprising other additives b),

to the rubber or latex and then carrying out the vulcanization, which comprises using a component a) whose average primary particle size is in the range from 0.05 to 20  $\mu m$ .

2. A process as claimed in claim 1, wherein the complexer a2) comprises a polymeric complexer compound.

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3. A process as claimed in claim 1 or 2, wherein the polymeric complexer a2) is a ligninsulfonate, a  $\beta$ -naphthalenesulfonic acid-formaldehyde condensate, or a mixture of ligninsulfonate and  $\beta$ -naphthalenesulfonic acid-formaldehyde condensate.

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- 4. A process as claimed in any of claims 1 to 3, wherein the polymeric complexer a2) is an alkali metal ligninsulfonate and/or an alkaline earth metal ligninsulfonate.
- 30 5. A process as claimed in any of claims 1 to 4, wherein the mixture M is free-flowing with a median particle size of from 50  $\mu m$  to 4 mm.
- 6. A process as claimed in any of claims 1 to 5, wherein the35 mixture M is a liquid dispersion.
  - 7. The use of a mixture M as defined in any of claims 1 to 6 as agent for vulcanizing rubber or latex.
- **40** 8. A vulcanized rubber or latex obtainable by the process as claimed in any of claims 1 to 6.